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Alaska's HAARP facility opens gates to community

by 1st Lt. Morgan J. O'Brien and 2nd Lt. J. Elaine Hunnicutt, AFRL Public Affairs

GAKONA, Alaska — Scientists and engineers of the High-Frequency Active Auroral Research Program near Gakona, Alaska, opened their doors to more than 100 guests for the seventh open house of the largest Department of Defense facility of its kind Sept. 28 and 29.

"On the street, off the Internet, and through our hotline, we get many inquiries about the activities we are involved in here," said Ed Kennedy, the Navy's program manager for HAARP. "In our opinion, a hands-on open house is the best way to interact and tell people the story about HAARP."

HAARP is a joint Air Force and Navy program. Its scientific research is coordinated with and largely conducted by academia.

Visitors were invited to tour the facility, take photographs and ask questions. The primary focus of this year's open house was to explain the process for completing the facility. Currently, the facility is approximately one-fourth complete with 48 of 180 antennas in place and functional.

"The purpose of the open house is in line with the importance HAARP places on reaching the people of the surrounding area," said Dr. Paul Kossey, the Air Force program manager for HAARP. "Through open houses and community outreach to the schools, we want the public to be familiar with the science of our site because it helps them understand what we do here and become more comfortable with the program."

The facility studies the effects of naturally occurring anomalies in the Earth's ionosphere that sometimes disrupt communication, navigational and power grid systems—such as region-wide electrical production networks.

"It is important that our work is not confined to the scientific community," said Cornell University's Dr. Elizabeth Gerken, a presenter at the open house who has given speeches to a Gakona-area high school.

The HAARP facility is comprised of a large radio frequency antenna array and diagnostic equipment designed to reproduce, characterize and understand natural phenomena similar to those that occur naturally in the ionosphere and space.



Near Gakona, Alaska, HAARP antennas stand 65 feet high and are spaced 80 feet apart in eight columns by six rows. With a slated completion date of 2006, the array will consist of antennas aligned in 15 columns by 12 rows. The instruments study the effects of naturally occurring anomalies in the Earth's ionosphere that sometimes disrupt communication, navigational and power grid systems—such as region-wide electrical production networks. (Air Force photo by 2nd Lt. J. Elaine Hunnicutt)

The antenna array radiates 960,000 watts of radio frequency energy into the ionosphere; the upper portion of the Earth's atmosphere that extends spaceward 50 to more than 300 miles. Upon completion, the array will produce 3.6 megawatts of radio frequency energy.

The simulated phenomena, which can only be observed with sensitive diagnostic equipment, provide scientists and engineers with insights to better understand how these naturally occurring phenomena occur and the effects they produce on communication, navigation and radar systems.

"Through our research, we hope to one day predict patterns in the ionosphere 24 to 48 hours out, to help the warfighter prepare for communications outages caused by action in the ionosphere," said 2nd Lt. Dave Armbruster, a HAARP deputy program manager.

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DoD owns the 5500 acres that is home to HAARP. The HAARP antennas are 65 feet high and spaced 80 feet apart in eight columns by six rows. With a slated completion date of 2006, the array will consist of antennas aligned in 15 columns by 12 rows.

"This weekend allowed us to share the global reach of the HAARP program," said Navy Ensign Noah Reddell, an engineering student at Stanford University, currently involved in a project related to HAARP, in which a remote buoy will be deployed between New Zealand and Antarctica. "This program is not confined to the local area."

The ionosphere and radio science research facility is located 200 miles northeast of Anchorage, near mile 11 on the Tok Highway.

"What we are doing is similar to DARPA's creation of the Internet, or the Air Force's development of global positioning satellites," said Kossey. "Today, radio science is not glamorous, still the military funds basic research in this area because of its importance to navigation, radar and communication systems.

"We're a 'tech push' facility," said Kossey, "HAARP assesses the viability of new system concepts for the next generation of these systems. After gaining understanding of areas that will help the military in the near term, our research and insights will be filtered to the commercial sector allowing them to run with it." @